United Nations A/69/331

General Assembly

Distr.: General
20 August 2014

Original: English

Sixty-ninth session
Item 23 (b) of the provisional agenda*
Eradication of poverty and other development issues: industrial development cooperation

Industrial development cooperation

Note by the Secretary-General

The Secretary-General hereby transmits the report of the Director-General of the United Nations Industrial Development Organization (UNIDO), submitted in accordance with General Assembly resolution 67/225.

* A/69/150.

14-59483 (E) 220914

Please recycle

Report of the Director General of the United Nations Industrial Development Organization

Summary

In the present report, prepared in accordance with General Assembly resolution 67/225, the Director General of the United Nations Industrial Organization (UNIDO) reviews most recent trends in industrial development, including manufacturing value added and growth in countries, the universal demand for innovative industrial policies and strategies and the relationship of industrialization with the economic, social and environmental dimensions of sustainable development.

In addition, the report analyses the importance of industrial development in the context of the emerging development agenda beyond 2015, making clear policy recommendations in that regard. Furthermore, the report describes the role and recent contributions of UNIDO, as the specialized agency of the United Nations mandated to promote inclusive and sustainable industrial development and international industrial cooperation.

I. Industrial development in review

A. Introduction

1. In the previous report on industrial development cooperation (A/67/223), the concept of inclusive and sustainable industrial development was introduced as the primary, renewed mandate of UNIDO and as a potential goal for the post-2015 development agenda.

2. The report argued that industrial development has proven to be the key factor in lifting people out of poverty, creating sustained shared prosperity, advancing international competitiveness at all levels and in all sectors and systematically improving environmental and social safeguards. This argument was based on observations of successful development paths in Europe, North America and Asia. Indeed, history shows that in countries that successfully transformed from an agrarian to a modern economy, Governments coordinated key investments by private enterprises that helped to launch new industries and often provided incentives to pioneering firms.[1] The argument was also based on the realization that entrepreneurship-based industrialization is a necessary precondition for long-term sustainable economic growth, social advancement and technological innovation, including in industry-related services and the agricultural sectors.

3. Since the issuance of the previous report, the international community has made a quantum leap in recognizing industrialization as a core sustainable development driver for eradicating poverty in the post-2015 era. In December 2013, the UNIDO General Conference adopted a milestone resolution, entitled "Lima Declaration: Towards inclusive and sustainable industrial development" (GC.15/Res.1). In June 2013, at the High-level Conference of Middle-Income Countries, held in San Jose, Costa Rica, participants declared that industrial transformation was a key prerequisite for achieving any future development goal.[2] Most recently, the least developed countries reiterated that the implementation of the Istanbul Programme of Action[3] depended on advancing inclusive and sustainable industrial development.[4] In addition, included in the draft outcome document of the Third International Conference on Small Island Developing States (A/CONF.223/3), to be held in September 2014, is a call for action to encourage inclusive and sustainable industrial development in their development agenda.

4. The various regional groups have likewise identified inclusive and sustainable industrial development as a cornerstone for their development policies. The common African position on the post-2015 development agenda considers industrialization as a central strategy for Africa to address poverty, inequality and unemployment, a notion that is also reflected in the economic reports of the African Union and the Economic Commission for Africa (ECA) for 2013 and 2014. At the ministerial conference on production and industrial development in Latin American

[1] Justin Lin, "Industrial policy comes out of the cold", Project Syndicate, 2010.

[2] San Jose Declaration: "Challenges for sustainable development and international cooperation in middle-income countries: the role of networks for prosperity" (IDB.41/Dec.4).

[3] Programme of Action for the Least Developed Countries for the Decade 2011-2020 (see A/CONF.219/3).

[4] Ministerial Conference on New Partnerships for Productive Capacity Building in Least Developed Countries, held in Cotonou, in July 2014.

and Caribbean, held in Caracas in 2013, high-level officials identified the pressing need to foster and strengthen national productive and industrial capacities in the region to increase productivity and overcome inequalities.[5] During a recent meeting of the Economic and Social Commission for Western Asia, countries of the region identified the promotion of inclusive growth and structural transformation through industrial and agricultural policy as a central development priority until 2030.[6] Meanwhile, most Asian countries have continued on their export-based industrialization path, which has lifted millions of people out of poverty. The industrialized countries have also recognized the importance of industry for their future growth, with the European Commission calling for an "industrial renaissance" and intending to raise the share of industry in European gross domestic product (GDP) to 20 per cent by 2020;[7] with the Organization for Cooperation and Development (OECD) addressing the importance of industrialization in its *Perspectives on Global Development* reports in 2013 and 2014; and with the Governments of Japan and the United States of America announcing industrial policies to revitalize selected industrial sectors in their countries, in particular their small and medium-sized enterprises, with the aim of advancing job creation and innovation.

5. In its resolution 67/225, the General Assembly encouraged Member States to give appropriate consideration to the issue of industrial development in the elaboration of the post-2015 development agenda. In that regard, the Open Working Group on Sustainable Development Goals recently proposed a goal "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation".[8]

6. Against the background of the ongoing negotiations on the post-2015 global development agenda, the global industrial landscape keeps changing at an unprecedented pace. While industrial policy was one of the "best-kept secrets" before 2010, most countries have confirmed since then that they pursue an active industrial policy in one form or another.[9] Of course, governments already provided support to private industries before the recent financial crisis, through direct subsidies, tax credits, or credits from national development banks in order to promote growth and job creation. In many international forums, other features of industrial policy were discussed, including the financing of major industry-related infrastructure, improvements in institutional capacities and transparent legal frameworks.[1]

B. Recent trends in industrial development

7. Following a period of remarkable growth, world manufacturing value added (MVA) reached a peak of $9,724 billion in year 2008, but fell in 2009, as a result mainly of the global financial crisis. Industrialized countries were hit the hardest, with manufacturing output decreasing by 12.4 per cent in real terms in 2009.

[5] Conclusions and recommendations of the meeting of high-level officials on productive and industrial development in Latin America and the Caribbean, Caracas 3 and 4 October 2013.

[6] See Economic Commission for Europe/Economic and Social Commission for Asia and the Pacific/Economic Commission for Latin America and the Caribbean/Economic Commission for Africa/ESCWA, "A regional perspective on the post-2015 UN development agenda", 2013.

[7] European Commission communication, "For a European industrial renaissance", 2014.

[8] Proposed goal 9 in the final report of the Open Working Group, adopted on 19 July 2014.

[9] Industrial policy refers to any government decision, regulation or law that encourages ongoing activity or investment in an industry.

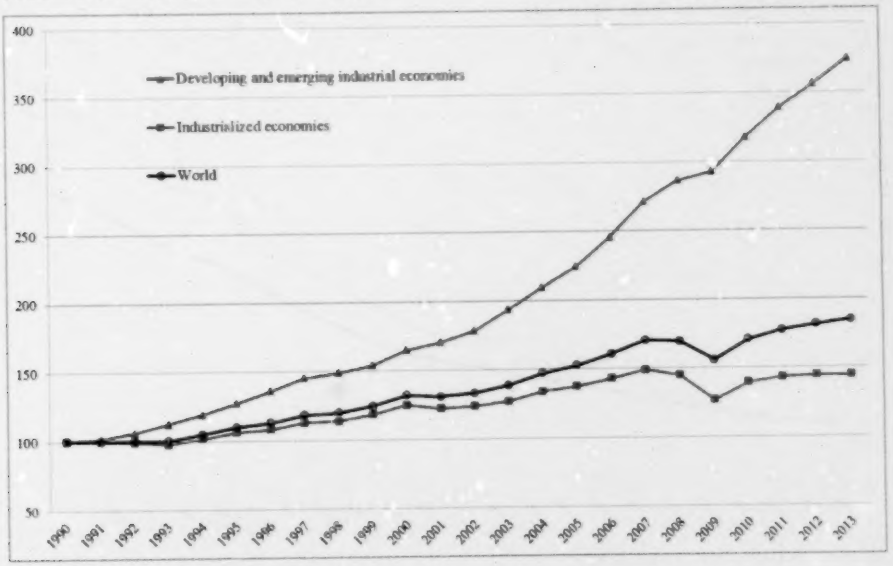
Developing and emerging industrial economies witnessed a slowdown in MVA growth rates starting from 2007, and in 2009 MVA grew by only 2.2 per cent (see figure I). Since then, MVA has recovered in industrialized as well as developing and emerging industrial economies, reaching $12,000 billion in 2013.

8. The acceleration of manufacturing growth over the past decade in developing and emerging industrial economies[10] is particularly remarkable. By 2000, MVA of developing and emerging industrial economies rose by 60 per cent compared with 1990 at 2005 constant prices, while during the past decade, MVA of these countries rose by 130 per cent compared with the year 2000. Between 1990 and 2013, MVA of industrialized economies increased by only 40 per cent.

Figure I

Growth trend in world MVA, 1990-2013, at constant 2005 prices

(Constant 2005 United States dollars, 1990 = 100)



Source: UNIDO statistical database.

9. The role of manufacturing as an engine of growth was particularly important in developing and emerging industrial countries where MVA growth outpaced GDP growth (see figure II). Sustained manufacturing activity over the past 20 years resulted by 2013 in a rate of growth of MVA that is 25 per cent higher than that of GDP. This trend was underpinned by the emergence of new fast-growing industries characterized by higher value added and productivity as well as increasing returns to scale.[11]

[10] With effect from 2013, new country groups are used in all UNIDO statistical publications. The details on the country groups are available in *International Yearbook of Industrial Statistics 2013*.

[11] Unless otherwise stated, all data provided in the present report have been obtained from UNIDO statistical databases or products, including the *International Yearbook of Industrial Statistics* (Cheltenham, United Kingdom, Edward Elgar Publishing, 2014).

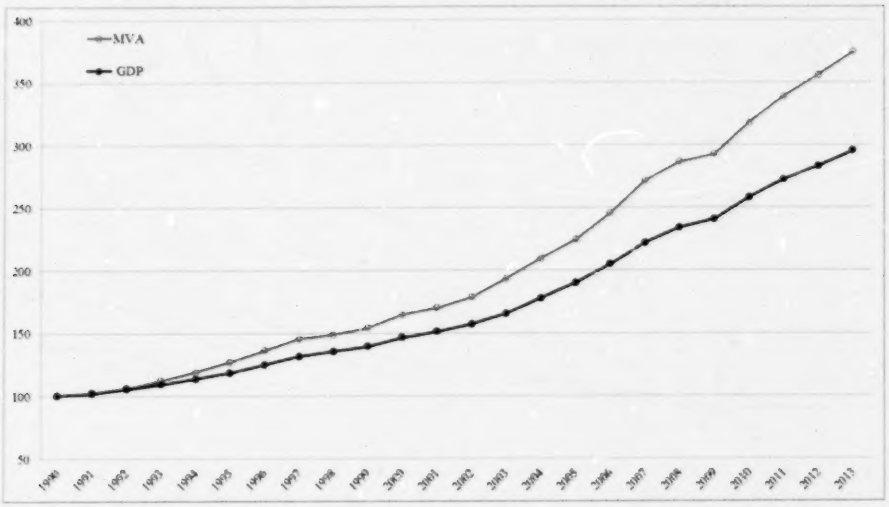
10. Rapid and sustained manufacturing growth has been a major source of poverty reduction in developing and emerging industrial countries through employment creation and income generation. Between 1990 and 2009, around 120 million jobs were created in manufacturing and its related services. Globally, manufacturing accounted for 471 million jobs in 2009, and increased to an estimated 500 million jobs in manufacturing and related services by 2013.[12]

11. Growing manufacturing employment has been accompanied by improvements in skills, working conditions and wages of the labour force. Workers have generally become more productive and opportunities for female employment have expanded significantly.

Figure II

Economic and industrial growth trends of developing and emerging industrial economies at constant 2005 prices

(Constant 2005 United States dollars; 1990 = 100)



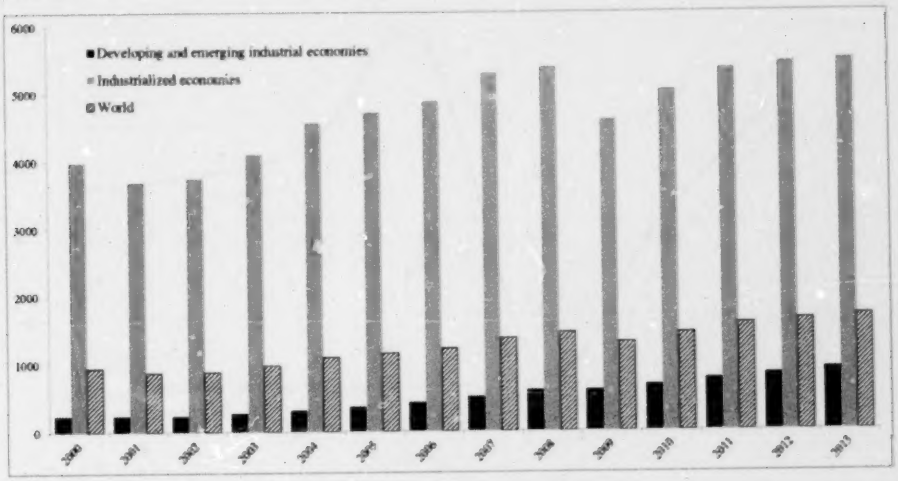
Source: UNIDO statistical database.

12. The further potential of industrialization in economic "catching-up" can be illustrated in the MVA per capita trends (see figure III). World MVA per capita was $1,697 in 2013, with the group of industrial economies enjoying an MVA per capita equal to $5,483, in contrast to the $917 of developing and emerging industrial economies. One hundred developing countries had an MVA per capita below the 2013 median of $397. Despite the trebling of MVA per capita in developing and emerging industrial economies since 1990, these countries still remain at about half of the world MVA per capita average and only one sixth of the MVA per capita of industrialized economies. While closing this gap will be no easy feat, the experience of recently industrializing countries suggests that the time lags faced by developing countries in reducing existing disparities and structurally transforming their

[12] UNIDO, *Industrial Development Report 2013: Sustaining Employment Growth: The Role of Manufacturing and Structural Change* (Vienna, 2013).

economies have been getting shorter, especially in the case of late-industrializers where active industrial strategies and policies were pursued.

Figure III
MVA per capita, by country group, 2000-2013
(United States dollars)

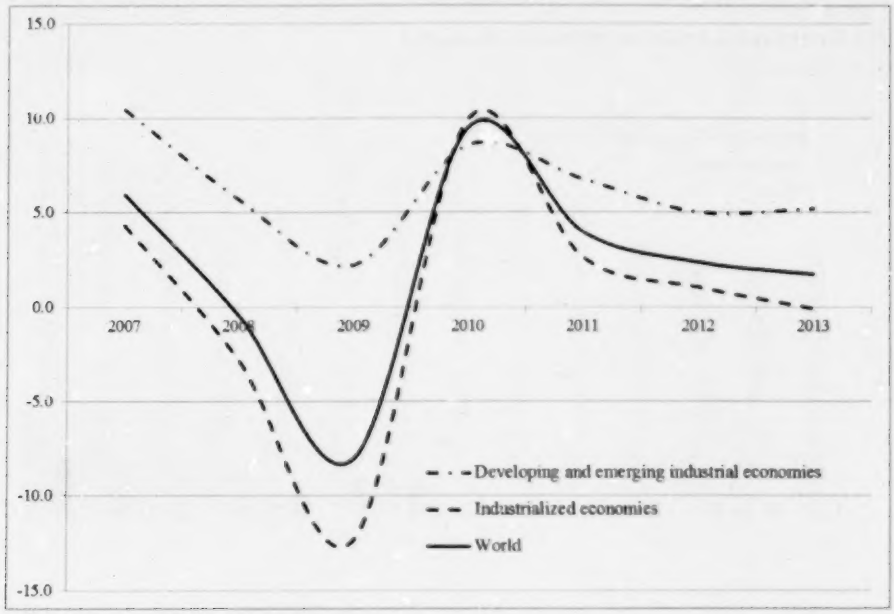


Source: UNIDO statistical database.

13. Figure IV illustrates the year-to-year trend of world MVA growth. MVA began to decline in 2008 and reached a lowest point in 2009. The global crisis strongly impacted industrialized economies, with MVA declining by about 13 per cent. MVA of developing countries slowed but stabilized at around a 5 per cent growth rate per year. Global MVA growth rates have still not recovered to pre-crisis levels.

14. MVA growth rates in 2010 suggested the beginning of a significant recovery in manufacturing industry, only to be quashed in 2011 by a return to sluggish growth. Not only were developed countries significantly affected by a re-emerging recession, especially in European countries, but developing countries also felt the effects of continuing instability in world financial markets and falling commodity prices. With the economic recession in industrialized countries lasting longer than expected, global MVA grew by only 1.7 per cent in 2013 (see figure IV).

Figure IV
Annual growth of world MVA, by country group, 2007-2013
(Percentage)



Source: UNIDO statistical database.

15. Figure V shows the relative resilience of manufacturing in developing and emerging industrial countries, which has so far shielded many people from the effects of the financial and economic crises, including the recently observed drop in overseas development assistance. Developing and emerging industrial countries now account for 35 per cent of world MVA, the highest observed to date.

16. There are three main factors explaining why developing and emerging industrial countries have increased their MVA share and generally maintained their economic growth rates so far:

(a) Manufacturers in industrialized countries have tended to outsource production activities to developing countries, resulting in the physical transfer of plants and production from industrialized to developing countries;

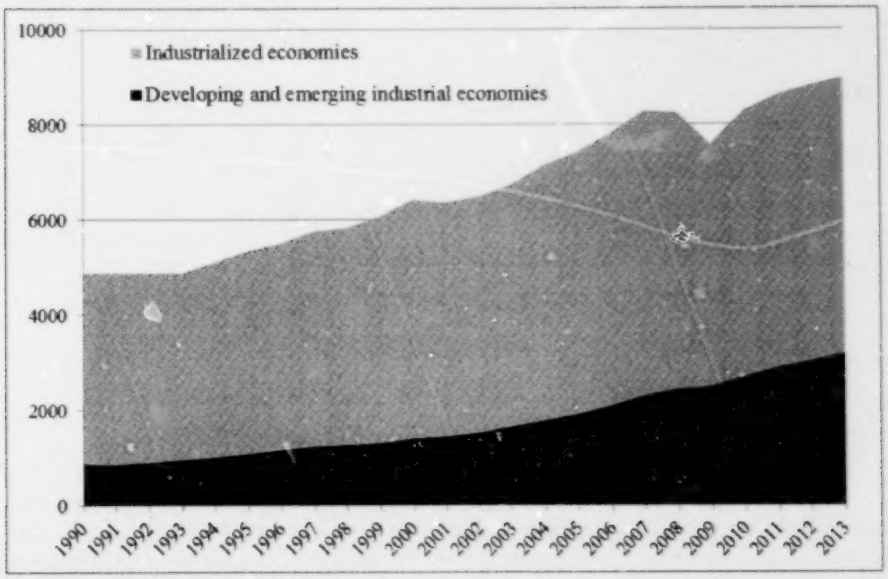
(b) Industrialized economies have shifted towards the provision of services, which have generally proven more vulnerable to the effects of the financial and economic crises;

(c) Developing and emerging industrial countries are less dependent on the financial sector, which accounts for up to 30 per cent of GDP in some industrialized countries. In developing and emerging industrial countries, the financial sector occupies a much smaller share and generally plays a supporting role in the economy. Therefore, the ongoing financial crisis has tended to have a more severe impact on industrialized countries than on the economies of developing and emerging industrial countries.

17. On a geographical basis, the Asia-Pacific region accounts for 70 per cent of MVA in developing and emerging industrial countries, or $3,852 billion in 2013, and is thus the largest manufacturing region by far. In contrast, MVA for sub-Saharan Africa remains very low, accounting for only 0.5 per cent of MVA in developing and emerging industrial countries.

18. There also continues to be great variance across developing and emerging industrial countries. China and India have seen the largest surge in terms of share of MVA in the past two decades, with China's share of developing and emerging industrial country MVA increasing from 15.7 per cent in 1990 to 50.4 per cent currently. With a share of 17.6 per cent of global MVA in 2013, China now ranks as the second largest manufacturer after the United States (with 19.1 per cent). India, with an economy focused more on services, has increased its share of global MVA to 2.3 per cent.

Figure V
Manufacturing value added, 1990-2013
(At 2005 constant United States dollars)



Source: UNIDO statistical database.

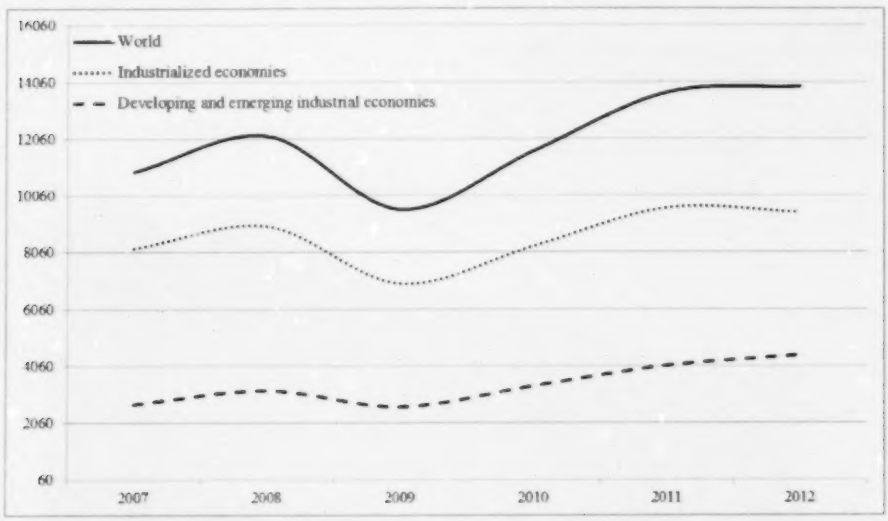
19. A significant feature of the current state of manufacturing is the increased use of international production networks to carry out different stages of the production process across borders, made possible by large scales of production, advances in technology (especially in respect of microelectronics) and affordable transport costs.

20. The result of this production sharing has been a larger increase in trade than the corresponding increase in MVA. In 2012, world manufactured exports peaked at an estimated $13,887 billion, growing faster than MVA and GDP during 2008-2012.

21. Industrialized economies account for the bulk of the world's manufactured exports, but developing and emerging industrial countries have been increasing their

world share since the 1990s. Manufactured exports from industrialized countries grew by only 1.3 per cent annually during 2008-2012, reaching $9,456 billion in 2012, as they struggled to recover from the dip in economic activity brought about by the financial crisis in 2008. Manufactured exports from developing and emerging industrial countries grew by 8.6 per cent annually over the same period, to an estimated peak of $4,431 billion in 2012. The higher long-term dynamism of developing markets is also reflected in the increase in their share in world manufactured exports, from 14 per cent in 1997 to 32 per cent in 2012, owing mainly to the expansion in exports from large developing and emerging industrial markets such as China and India (see figure VI).

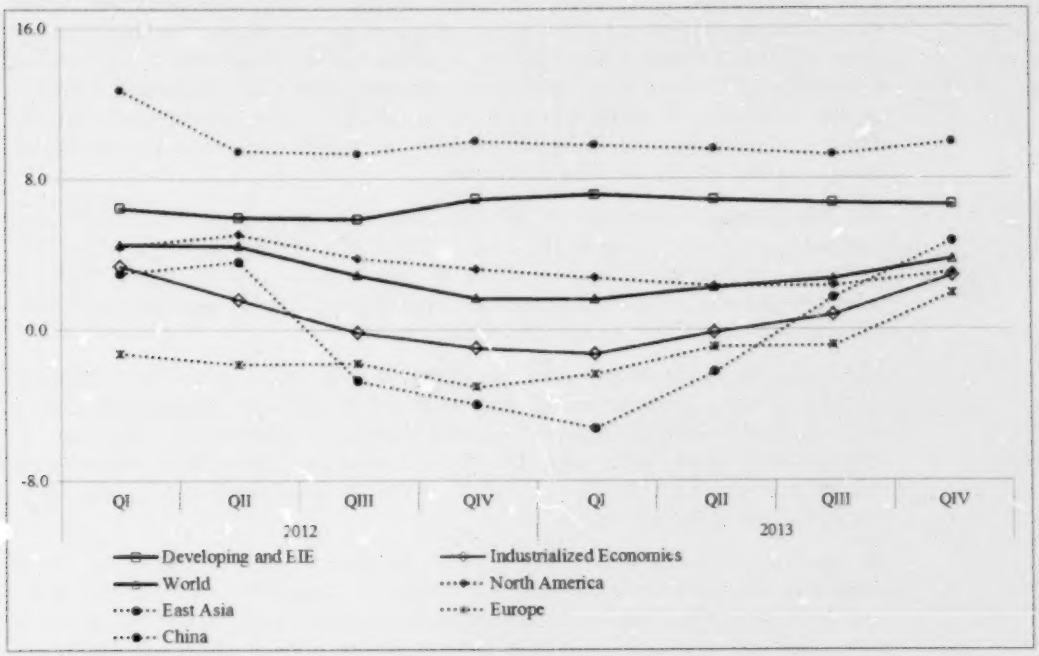
Figure VI
World manufacturing exports, by country group, 2007-2012
(Billions of United States dollars)



Source: UNIDO statistical database.

22. Figure VII shows how different dynamics hold sway in different groups of countries in the short run. World manufacturing output grew by merely 1.6 per cent in the first quarter of 2013. This was the lowest growth rate since the fourth quarter of 2009 amid the deepening economic recession in Europe and weakened growth in other industrialized countries. However, the global manufacturing growth figures have been consistently rising since the first quarter of 2013 and the current growth rate is the highest of the past three years. World manufacturing gained further strength in the fourth quarter of 2013 as a result of the continuing economic recovery of industrialized countries.

Figure VII
Quarterly growth trends of major country groups, 2012 and 2013
(Percentage, compared with same period of previous year)



Source: UNIDO statistical database.
Abbreviation: EIE, emerging industrialized economies.

23. In the fourth quarter 2013, and for the first time since 2010, manufacturing output grew in all industrialized country groups. Steady growth of manufacturing output for the fourth quarter of 2013 in major European economies led to positive growth in the whole region while the industrial growth rates between the eurozone countries and Europe in its entirety began to converge. MVA growth in North America, accounted for mainly by Canada and the United States, which had slowed down for five quarters, also began to accelerate. MVA growth rates in East Asia, driven by Japan, were the highest of the industrialized world, following increases in household consumer spending and the drop in the value of the yen against the United States dollar. Growth rates in this region have been improving over the past four quarters.

24. Despite the relatively higher growth rates of manufacturing output observed in developing and emerging industrial economies, the pace slowed slightly throughout 2013. There is growing concern that these economies might have been caught in a slow growth trap as a consequence of the prolonged recession in industrialized countries. The major external and internal risks posed to the industrial growth of these economies are the possibility of reversal of capital flows and a rise in the cost of production, respectively. Industrial performance in China seems to have been the principal driver of these trends, particularly in the second and third quarters, when its MVA growth also showed signs of slowing down.

C. Conclusions on recent trends in industrial development

25. The global manufacturing landscape has changed dramatically in recent years, with the financial crisis being the main trigger of this transformation. World manufacturing has entered a new phase of steady growth, from a prolonged period of recession that caused a sharp decline in production in industrialized countries and a significant slowdown in developing and emerging industrial economies. Industrial growth figures in the fourth quarter of 2013 indicate a boost in the manufacturing sector of developing and emerging industrial countries. Growth is also becoming more sustained in industrialized economies.

26. Early signs of recovery in industrialized economies appeared in 2013, and gradually took hold towards the end of 2013. Recent figures suggest that the prospects of sustained global industrial growth in coming years both in industrialized and in developing and emerging industrial economies are favourable, although there are still risks of a downturn.

27. Industrialized economies are beginning to pull out of recession. Consumer confidence seems to be returning, increasing the demand for manufactured goods such as food, clothing, automobiles and consumer electronics. Investment in infrastructure, which drives basic industries, is also picking up. Low interest rates and an accommodating monetary policy across the developed world seem to be finally beginning to yield results.

28. In recent years, manufacturing in developing and emerging industrial economies has also undergone important structural changes that are beneficial in the long term. Apart from low- and medium-tech industries, those economies have also maintained high growth in more high-tech production of chemical goods, machinery and equipment, electric and electronic appliances and motor vehicles, both for domestic markets and export. This trend has significantly improved the industrial performance of developing countries in terms of productivity and competitiveness.

29. The positive relationship linking MVA and GDP in developing countries continues to attest to the importance of industrial transformation as the main engine of economic growth. In the Asia-Pacific region in particular, manufacturing remains a major source of overall economic growth. However, the growth trend for developing and emerging industrial economies masks acute disparities between the various developing regions and countries.

30. The significance of industry for inclusive and sustainable economic growth remains undeniable. Besides its contribution to production, exports, income, employment and poverty reduction, manufacturing significantly contributes to innovation. A robust industrial export base helps countries to recover from recessions faster than those lacking equivalent manufacturing sectors.

31. Challenges remain, however, regarding how those clear benefits can be made even more inclusive, in terms of a more equitable distribution across groups, countries and regions. In addition, manufacturing must be environmentally sustainable. Hence, another major challenge is to address issues such as access to clean energy, resource efficiency and the adoption of production processes that have a minimal impact on the environment.

II. Industry and the development agenda beyond 2015

32. Against the trends in the current industrial landscape, and recognizing the universal sustainable development needs and aspirations in the era beyond 2015, the present section will discuss the positive relationship between industrialization and several key social and environmental issues and elaborate the link between industrialization, infrastructure and innovation.

A. Inclusive and sustainable industrial development

33. As the period set for the Millennium Development Goals draws to an end, the attention of the international community has turned to the post-2015 development agenda, which will apply new approaches with a view to accelerating progress and paving the way for a more ambitious, inclusive and universal development framework.

34. Recent experiences of human suffering and development setbacks, in particular owing to the lingering after-effects of the global financial and economic crises, as well as the increasingly frequent natural disasters, have brought into renewed focus the relationship between economic growth, environmental safeguards and inclusive development. There is a growing recognition that the structural transformation of economies and industries — building additional efficient and effective productive capacity, supporting economic diversification and building green industries — is key for creating the growth rates, jobs and economic structures needed to achieve shared prosperity for all women and men within an environmentally sustainable framework, in developing and developed countries alike.

35. Smart patterns of industrialization and international industrial cooperation thus provide opportunities for people to escape from poverty, to engage in productive activities for continuously accumulating skills and to simultaneously improve the environmental and social safeguards in their regions and societies. This development pattern has been defined as inclusive and sustainable industrial development.

36. Experiences from the past have shown that shared prosperity and inclusiveness was in most cases based on progress made in absorbing the labour force more effectively into higher-income industrial jobs. As shown in section I.B above, manufacturing industries and their related services sectors can provide opportunities to large numbers of workers, provide them with stable jobs and good benefits and increase the prosperity and well-being of their families and communities.[12] For example, efficient agro-industry enhances economic stability for rural households, increases food security and promotes innovation throughout industrial value chains. Similarly, locally operating pharmaceutical and medical equipment industries are key to improving the access to and quality of health services and to increasing the number of decent jobs in this important growth sector. Moreover, manufacturing is particularly effective in fostering jobs for women, with a higher share (33 per cent) than in agriculture (28 per cent) and non-manufacturing areas (9 per cent).[12]

37. International industrial cooperation and trade also support the diffusion of best practices and standards, both in production methods and product design, and provide opportunities for better access to modern technologies and cross-border learning.

Industry plays an important role in increasing the ability of countries to constantly generate new activities based on upgrading to higher levels of value addition, higher productivity or higher returns to scale, in order to sustain stable jobs and increase prosperity for a growing share of the population.

38. According to the former Chief Economist of the World Bank, Justin Lin, such international industrial cooperation can enable less-developed countries to follow their more successful neighbours, emulating a "flying geese pattern" where they benefit from the leaders' "tailwind" as they first industrialize and then become advanced countries themselves. Large and dynamic emerging market economies thereby offer unprecedented opportunities for other developing countries to jump-start their own industrialization processes. China can be seen as an example for this, with the potential to relocate millions of manufacturing jobs and offer industrial investments worth billions of dollars to developing countries in the coming decades.[13]

39. In view of these new opportunities, governments will need to learn how best to identify tradable industries, introduce consistent industrial policies, fill necessary infrastructure gaps and help private firms — and small and medium-sized enterprises in particular — to resolve information, coordination, financing and externality issues linked to technological upgrading and to gaining access to global value chains. This may also require large-scale imports of capital equipment and technological know-how from advanced economies, thereby also benefitting their advanced industrial sectors.

40. Achieving further improvements in the industrial productivity of developing countries will also necessitate a larger pool of industrial human resources. Education has progressed continuously, and the strikingly higher attainments of secondary and tertiary education might result in larger numbers in skilled labour and increase the share of young people in decent jobs. However, mismatches between the skills offered and the needs of industry still significantly limit employment opportunities and increase costs, leading to slower reallocation of resources across sectors away from agriculture into higher-productivity manufacturing and services.[14] Education policies should therefore benefit from sound industrialization strategies and address the issue of coherence between investment in skills and technological needs in the economy, especially in tertiary education and vocational training.

41. Of course, any progress in reaching higher levels of prosperity is short-lived if the necessary economic growth is not achieved within an environmentally sustainable framework. However, the primary question cannot be to choose between industrial growth or sustainability. It is the transformation in production processes, infrastructure and business models — going hand-in-hand with the right choice of technologies — that will present the solutions to the daunting environmental challenges of our times and enable the achievement of both growth and sustainability.

42. Cleaner and more resource-efficient production methods can gradually lead to a decoupling of economic growth from environmental degradation. In this context, the drive for innovation and process optimization — reducing the wastage of costly

[13] Justin Lin, "Industrialization's second golden age", Project Syndicate, 2012.

[14] OECD, *Perspectives on Global Development 2014: Boosting Productivity to Meet the Middle-Income Challenge* (Paris, OECD Publishing, 2014).

resources and thus increasing economic competitiveness — is an important means of developing the solutions necessary to realize cleaner production, efficient resource management and a reduction of waste and pollution.

43. Energy efficiency in industry plays a particularly important role in this context, as energy inputs represent an important cost of production in all industries. Clean energy sources and energy efficiency measures are thus core determinants for future economic competitiveness and sustained industrial growth.

44. However, sustainability in industry cannot be driven at the firm level alone, and governments need to adjust their industrial policies — at the municipal, regional and national levels — by considering suitable environmental safeguards, including waste management, water purification and pollution control measures. "Green industries" can be promoted to deliver important environmental goods and services, thus not only contributing to environmental sustainability but also providing additional opportunities for further structural diversification, jobs, income and prosperity.

45. To achieve inclusive and sustainable industrial development, institutional infrastructure needs to be built, strengthened and made capable of designing, implementing and monitoring industrial policies that promote and encourage modern patterns of private sector development. Any successful long-term strategy and sound industrial policymaking will also need to ensure an overall framework of stable economic, legal and political conditions and create incentives to invest in the education and entrepreneurial skills necessary for the industries of the twenty-first century.

46. Transforming industries towards an inclusive and sustainable direction in all countries will also build the basis for a long-term solution in the global struggle around financing for development and unleash national resources for advancing prosperity for all.

B. Resilient infrastructure and industrialization

47. Ensuring inclusive and sustainable industrialization processes requires major investments in resilient infrastructure, including broadband networks and other information and communications technologies; energy technologies; piped water supply, sanitation and sewerage, as well as solid waste management and recycling systems; major irrigation and drainage systems; transport infrastructure; environmental technologies; health systems; and facilities for education and skills development.

48. Resilient economic infrastructure improves productivity and reduces the costs of existing and new productive activity. The availability of infrastructure helps to attract investment, deepen markets and generate agglomeration economies by attracting productive capacity to a specific location. Energy, water, roads and communications facilities, if located where disadvantaged groups are situated and when affordable access is addressed, will have a direct impact on reducing inequality and making growth more inclusive. Gender-responsive and tailored health and social infrastructure, for example, can improve the security of women and girls and help their free movement and education. Proximity between industrial sites and jobs,

residential locations and infrastructure, especially in disadvantaged areas, contributes to narrowing spatial disparity and improving economic opportunities for all.[15]

49. Moreover, infrastructure investments are a major contributor to economic growth in many countries. They can be a useful policy instrument for anti-cyclical economic interventions, creating jobs in the short run through an increased demand for materials and labour, and in the long run through demand for related service industries and maintenance works. In fact, the World Bank estimates that nearly half of the acceleration of economic growth in sub-Saharan Africa in 2001-2005 was a result of infrastructure investments. Some of these investments also clearly improved the business environment for industry and spurred subsequent industrialization activities.

50. However, the long-term effectiveness of infrastructure investments depends on the development of comprehensive industrial policy solutions. These should also increasingly attract private capital investors to major infrastructure projects for industry. By doing so, the power and dynamism of the private market is expected to further improve the allocation of capital and promote transparency, thus increase the resilience of the infrastructure projects undertaken.[16]

C. Innovation, technology exchange and knowledge networks

51. In the face of the rapidly changing global industrial landscape and increasing inequalities, the findings of the Nobel laureate economist, Robert Solow, should be revisited; he argued that rising incomes are largely not attributed to mere capital accumulation but to technological progress and innovation. Still, innovation remains a dispersed phenomenon, where many obstacles remain for developing countries. Therefore, a better understanding and appreciation of the local dynamics of innovation could clearly contribute to unleashing new sources of growth, competitiveness and job creation. Opportunities for new innovation-based growth can be found in many industries, but the optimization of the interplay of institutions in the interactive processes involved in the creation, application and diffusion of knowledge, human capital and technology will remain the critical challenge for governments.[17]

52. While such innovative power is one of the central virtues of a market-based system, governments should support these forces through smart industrial policies with a long-run innovation and learning perspective. Industrial policies can help "infant industries" to grow through technological adaptation and learning, also providing spillover effects into other related sectors and industries. In this context, it is important to note that the core of such industrial policies is not to "pick specific winners" in the market but rather to identify positive externalities, that is, industries and sectors where learning might generate benefits elsewhere in the economy.[18]

---

[15] Open Working Group Technical Support Team Issues Brief 5, "Sustained and inclusive economic growth, infrastructure development, and industrialization", 2013.

[16] Justin Lin and Kevin Lu, "Infrastructure's class of its own", Project Syndicate, 2014.

[17] Cornell University, INSEAD and World Intellectual Property Organization, *The Global Innovation Index 2013: The Local Dynamics of Innovation* (Geneva, Ithaca and Fontainbleau, 2013).

[18] Joseph Stiglitz, "Creating a learning society", Project Syndicate, 2014.

53. However, no economy can grow sustainably in isolation, and interrelations and connectedness are necessary for innovation that unleashes productive forces for the benefit of all. The current global industrial landscape has evolved into a highly diversified and multipolar system of economies, industries and institutions. Innovation policies therefore need to take into consideration how to increase industrial learning through regional and global knowledge networks.[19] To innovate through the adoption of existing knowledge and technology elsewhere in the world, and gradually through domestic technological capabilities, is a major policy objective in this context. Developing countries often have significant room for technological catch-up compared with advanced countries and can make effective use of technology transfer mechanisms, including technology licensing and foreign education, among others. Countries also need to create new products, processes and services that are better suited to their individual needs and to develop their own frontier-shifting innovations for creating competitive edges.[14] One major way to advance in this area is through the integration into national and global knowledge and innovation networks.

54. Vibrant knowledge networks consist of a living ecology of institutions, which perpetually provide new knowledge and opportunities and which continuously enhance socioeconomic policymaking at all levels. Hence, the national and international connectedness of a country — as measured in the UNIDO Connectedness Index — can be a good indicator for its ability to benefit from such dynamic knowledge and technology sources. To advance such connectedness, governments will need to consider investments into related institutional infrastructures and into systems that allow industries and public institutions alike to diffuse and transfer knowledge, technology and investments with the objective of achieving a perpetually learning society.[20]

55. The current processes of industrialization also continue to take place against, and perhaps owing to, large shifts in the spatial distribution of people. In 2009, 50 per cent of the global population was living in cities. Urbanization is posing both challenges and opportunities, with some cities growing at rapid and unmanageable rates, resulting in expanding slum areas with inadequate urban infrastructure. Yet, where properly governed and planned, spatial inclusion can be achieved as the concentration of people allows for more efficient provision of services and easier communication and knowledge exchange.[15] Such urban innovation power requires investments into the framework conditions that allow for new thinking, welcomes participation and reduces obstacles that deepen the inequality of opportunities among different groups of society. Innovation boosts can also be achieved through smart industrial policies that provide spaces in urban and semi-urban areas, allowing industries to cluster, thus fostering a basis for inter-industrial knowledge exchange and technology learning. Such industrial parks can stimulate productivity, innovation and the growth of local industries and also increase foreign direct investments and related technology exchange with globally more advanced economies.[12]

---

[19] UNIDO, *Networks for Prosperity 2012: Connecting Development Knowledge beyond 2015* (Vienna, 2012).

[20] UNIDO, *Networks for Prosperity 2013: Partnering for Inclusive and Sustainable Industrial Development* (Vienna, 2013).

56. For achieving the ultimate goal of full eradication of poverty, shared prosperity and environmental sustainability, policymakers in all countries will need to reflect on policies that are directed towards inclusive and sustainable industrial development and invest to infrastructure, networks, institutions and people that advance industrial productivity and innovation throughout the world.

III. Response of the United Nations Industrial Development Organization

A. Introduction

57. Based on the Lima Declaration, UNIDO aims to achieve inclusive and sustainable industrial development for its Member States.

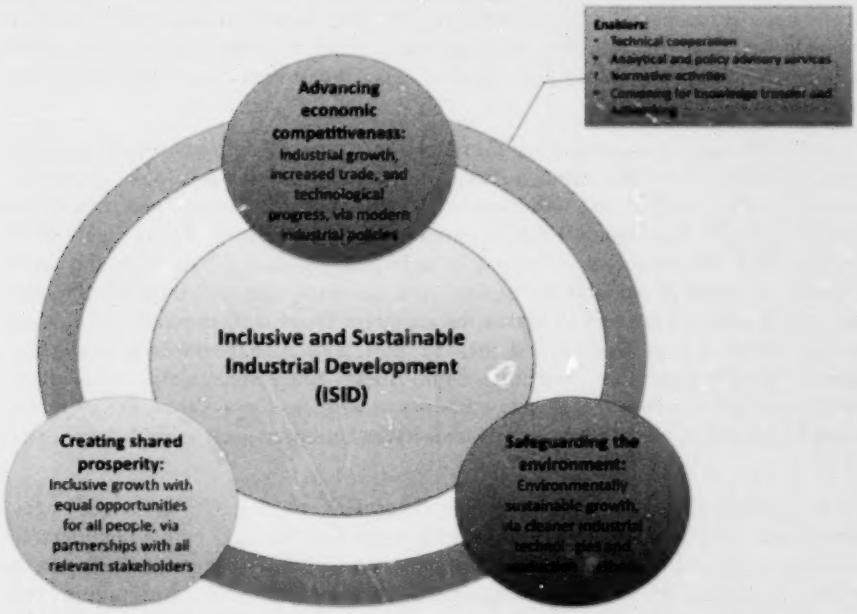
58. The Organization aligns itself with all relevant United Nations system-wide initiatives and coordination mechanisms at the global, regional and local levels, including all those emanating from General Assembly resolution 67/226 on the quadrennial comprehensive policy review of operational activities for development of the United Nations system. Working partnerships are established with most sister organizations of the system, including the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development, the International Labour Organization, the International Trade Centre (ITC), the United Nations Conference on Trade and Development, the United Nations Development Programme, the United Nations Environment Programme (UNEP), the United Nations Educational, Scientific and Cultural Organization, the United Nations Human Settlements Programme (UN-Habitat), the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), the World Tourism Organization, WIPO, the World Trade Organization and the institutions of the World Bank Group. Moreover, UNIDO has extensively engaged with a number of regional development banks, regional economic and political organizations and OECD.

59. Successfully implementing inclusive and sustainable industrial development in our current era of globalization requires approaches that harness globally available knowledge, technology and innovation. Multi-stakeholder partnerships and diverse sources of expertise and resources are therefore a major pillar for successful UNIDO programmes, facilitating the transformation towards inclusive and sustainable industrial development. To that end, UNIDO has multiplied its collaboration with a variety of international players, including the private sector, non-governmental organizations and academia.

B. Programmatic focus

60. The role of UNIDO, in the light of the recently renewed mandate in the Lima Declaration and the overarching development agenda for the United Nations system, is illustrated in figure VIII below. The figure provides a holistic view of the interrelationships between different mutually supporting aspects of industrialization, each related to a different dimension of sustainable development. Development outcomes and impacts are achieved through four enablers: technical cooperation; analytical and policy advisory services; normative activities; and convening for knowledge transfer and knowledge networking (see General Assembly resolution 65/175, para. 22).

Figure VIII
Role of UNIDO in the global development landscape


Enablers:
Technical cooperation
Analytical and policy advisory services
Normative activities
Convening for knowledge transfer and networking
Advancing economic competitiveness: Industrial growth, increased trade, and technological progress, via modern industrial policies
Inclusive and Sustainable Industrial Development (ISID)
Creating shared prosperity: Inclusive growth with equal opportunities for all people, via partnerships with all relevant stakeholders
Safeguarding the environment: Environmentally sustainable growth, via cleaner industrial technologies and production

61. The programmatic focus of UNIDO is designed to have a catalytic and transformative effect towards inclusive and sustainable industrial development in programme countries. Although specific programmes and activities may address one or more of the three dimensions to varying degrees, highlighting the complexity of the development process, taken together they are intended to provide a comprehensive and coherent set of services to address all three dimensions of sustainable development.

Creating shared prosperity

62. During the reporting period (2012-2014), the UNIDO technical cooperation programmes continued to focus on policies and structural change methodologies supporting small and medium-sized enterprises. This included programmes that created or maintained an enabling business environment for such enterprises as a necessary precondition for successful enterprise development; the continuation of the Africa Investment Promotion Agency Network, which builds the capacity of these agencies and supports their strategic planning efforts on the basis of up-to-date investor information; and the 25 subcontracting and partnership exchanges around the world, identifying subcontracting, joint venture and supply chain opportunities and facilitating matchmaking between local enterprises and foreign investors.

63. UNIDO also continued its programmes focused on more marginalized groups, including rural populations. The development of competitive agro-industries is crucial for enhancing the quality of and demand for agricultural products, as well as for creating employment and generating sustainable and inclusive business opportunities for the rural poor. To support developing countries, in particular least developed

countries, UNIDO continued to facilitate the strengthening of agro-industrial capacities and the technological upgrading along agro-industrial value chains, from the farm level to final consumption. In collaboration with FAO, as part of the Accelerated Agribusiness and Agro-industries Development Initiative, UNIDO further continued to focus particularly on supporting African countries in value-chain development, the promotion of agribusiness investment and agro-enterprise development.

64. UNIDO further expanded its programmes on youth employment. The often limited capacity of formal labour markets, particularly in least developed countries, necessitates the further strengthening of youth entrepreneurship and enterprise development. To that end, UNIDO continues to implement initiatives geared to increasing the employability of young people and providing them with the tools necessary to create sustainable enterprises and ultimately improve their livelihoods. A reform of school curricula to match the entrepreneurial skill needs in developing countries helps young women and men to start their own businesses or to find suitable employment in existing enterprises. Entrepreneurship curriculum programmes are currently being implemented in Angola, Cape Verde, the Gambia, Mozambique and the countries of the Manu River Union, as well as in Armenia and Iraq.

65. Programmes for the economic empowerment of women have also been strengthened, and women's integration into higher-skilled and better-remunerated productive activities remains a priority in many UNIDO interventions. In addition, a significant number of initiatives are geared towards improving opportunities for women and girls, and specifically include targeted training to advance technological capacities and entrepreneurial and business skills, as well as facilitation mechanisms for women entrepreneurs' access to finance. In Pakistan, a specific example for bridging the finance gap for women entrepreneurs is the establishment of business growth centres that facilitate credit access through the country's First Women's Bank.

66. Drawing on its research and statistical data on industrial development, UNIDO publications and working papers continued to be key sources of specialized knowledge for policymakers, practitioners, academics and other development organizations. The *Industrial Development Report 2013: Sustaining Employment Growth: The Role of Manufacturing and Structural Change* illustrates the linkages between the continuous upgrading of manufacturing industries and growth, productive employment and the efficient use of resources.

67. In June 2014, the first Global Forum on Inclusive and Sustainable Industrial Development set up a platform for member States to engage in a strategic dialogue on how to formulate, operationalize and implement strategies and policies for such development, drawing on international expertise, regional knowledge and international best practices. The Forum laid the foundation for a second global forum, to be held in November 2014, with a focus on more concrete mechanisms for the establishment and management of industrial parks. In the future, the forums will also serve as a global platform for multi-stakeholder partnerships, programme identification and development financing.

68. UNIDO continued its rapid growth in the establishment of business partnerships for inclusive and sustainable industrial development. Moreover, UNIDO co-led, with the Global Compact, the global consultations of the United

Nations Development Group on the topic "Engaging with the private sector in the post-2015 agenda". The round of dialogues is intended to deliberate on this issue and inform the various processes related to the definition of the post-2015 development framework.

69. South-South and triangular cooperation remained an important pillar of UNIDO programmes, with dedicated centres for South-South industrial cooperation in India and China and a recently established training facility on food quality and safety in China. UNIDO also convenes and facilitates knowledge networks and platforms that showcase good practices and solutions. In this context, UNIDO also facilitated the High-level Conference of Middle-Income Countries, which was organized in June 2013 by the Government of Costa Rica, in San Jose.

70. One core institution in this context is the UNIDO Institute for Capacity Development, offering training on key issues related to inclusive and sustainable industrialization policies. Major training activities during the reporting period included courses on the future of manufacturing, human settlements and challenges for sustainability, sustainable energy solutions, green industries, trade capacity-building and the economic empowerment of women. The Institute serves as a catalyst for innovative solutions, ideas and partnerships and provides a global learning platform and knowledge network to that end.

71. Closely linked to this, UNIDO continued its *Networks for Prosperity* initiative, which provides recommendations on leveraging the role of knowledge networks and innovation policies in industry. During the reporting period, two reports were published, covering the role of knowledge networks in the post-2015 development agenda and the importance of partnerships for inclusive and sustainable industrial development. The reports also contain an annual global connectedness index that provides insights into the ability of countries for linking themselves into global knowledge, policy and industry networks in order to benefit from such decentralized sources of know-how and technology.

Advancing economic competitiveness

72. The dynamic nature of inclusive and sustainable industrial development necessitates sustained and continuous action at the policy level. UNIDO therefore further expanded its industrial policy advisory services. Several policy tools, including the Structural Change and Industrial Diagnosis Approach, allow a country to better determine its comparative advantage, on the basis of its unique industrial characteristics and structure. In addition, the UNIDO Computer Model for Feasibility Analysis and Reporting continued to provide a methodology for high-quality pre-investment project appraisal and feasibility analysis, facilitating short- and long-term analysis of financial and economic consequences for industrial and non-industrial projects.

73. Technical cooperation programmes in business development, investment facilitation and technology transfer supported institutional capacity-building initiatives to promote private sector development and improve the competitiveness of businesses, mobilize investments and facilitate access to suitable technologies for developing countries. Programmes in this area also supported the upgrading of industrial enterprises and technical support institutions, including active policy advice and technology promotion through the UNIDO network of investment and technology promotion offices. Also, UNIDO advanced a major partnership with the

African Union to accelerate the implementation of the Pharmaceutical Manufacturing Plan for Africa.

74. Enhancing the trade capacities of countries, allowing them to increasingly participate in regional and global trade networks, is a crucial factor for successful industrialization. During the reporting period, UNIDO issued several major policy resource publications, including the 2013 edition of the *Trade Capacity-Building Resource Guide* and the second edition of the report *Meeting Standards, Winning Markets — Trade Standards Compliance*. These policy tools provide an in-depth analysis of technical assistance services and cooperation mechanisms in the area of trade capacity-building, as well as the international trade and compliance challenges for developing countries. In addition, UNIDO continued to assist countries in upgrading their industrial processes in sectors with a high export potential to internationally acceptable standards and market requirements and to formulate local and national policies and strategies aimed at improving industrial competitiveness and overcoming technical barriers to trade. Programmes also developed capacities in national conformity assessment bodies to perform internationally recognized product testing and calibration. As a member of the Network on Metrology, Accreditation and Standardization for Developing Countries, UNIDO co-hosts the secretariat of the Network for the 2014-2015 term, along with ITC. Recent examples of trade-related programmes include a major project to boost the competitiveness of the non-oil sector in Nigeria; a programme in Haiti to set up the Bureau of Standards and Metrology; and upgrading programmes for testing laboratories in Cambodia, Haiti, Nepal and Viet Nam.

75. Compliance with food security standards and sanitary agreements is key to helping food industries broaden their access to world markets. Therefore, UNIDO continues to assist in implementing good hygiene practices and introducing food-safety systems, based on risk analysis, prevention and traceability in agro-industrial value chains. In this context, UNIDO hosted the first meeting of the Technical Working Group of the Global Food Safety Partnership, in 2013. Further to its efforts towards strengthening sanitary controls for international and regional trade, UNIDO, in cooperation with the European Commission, has established a food safety alert rapid response facility on a pilot basis in the Gambia, Ghana, Guinea, Sierra Leone and Togo.

Safeguarding the environment

76. Rethinking industrial processes towards environmentally sound production methods remained a major pillar of the UNIDO technical programmes throughout the reporting period. UNIDO programmes are aimed at advancing both (a) cleaner and more resource-efficient production methodologies and (b) a more systematic provision of environmental goods and services, including waste management and recycling services. At the core of this programme is the UNIDO-UNEP Resource Efficient and Cleaner Production Network, promoting the adaptation and adoption of resource-efficient and cleaner production in developing countries. This Network, covering more than 50 countries, fosters the exchange of experience and technological know-how. In 2013, UNIDO and the Network initiated a global review of achievements, good practices and lessons learned, with the purpose of further supporting countries with empirical data and recommendations on applicable sustainable industrial policy frameworks. UNIDO also strengthened its work in the

field of water management, in particular through its integrated methodology on the transfer of environmentally sound technology.

77. Through its Green Industry Platform, UNIDO created a global framework that brings together government, business and other key stakeholders with the purpose of further mobilizing, facilitating and mainstreaming support towards green industry commitments and concrete actions across all regions. In this context, in 2013, UNIDO organized the Green Industry Conference in Guangzhou, China, with a special focus on creating a circular economy through resource efficiency and effective environmental management and policies. The Platform facilitated the exchange of experiences and lessons learned between 700 participants on local and national green industry strategies. UNIDO also further contributed to the Partnership for Action on Green Economy, which supports 30 countries in building national green strategies rooted on clean technologies, resource-efficient infrastructure, green skilled labour and good governance.

78. Improving energy efficiency within industry is one of the most cost-effective measures to help supply-constrained developing and emerging countries in meeting their increasing energy demand and to loosen the link between economic growth and environmental degradation. UNIDO therefore continued its energy management, energy efficiency and renewable energy services, including innovative financial schemes. In complementing its role in the Sustainable Energy for All initiative, UNIDO also places a high value on its partnership with the Global Environment Facility, aimed at the creation of a growing number of platforms to promote clean technology innovations, boost the competitiveness of small and medium-sized enterprises, help to build national capacity for clean technologies and develop a supportive local entrepreneurial ecosystem. Programme examples include the Global Clean-Technology Programme for Small and Medium Enterprises, and the public-private partnership on motor-systems efficiency indicators, in cooperation with the Global Green Growth Institute. In 2013, the third Vienna Energy Forum, organized by UNIDO, promoted an energy goal for the post-2015 development agenda and underlined the importance of financing and partnership in ensuring sustainable energy.

79. Eco-industrial parks can foster rapid industrial development through the transfer and adaptation of technology, knowledge and skills, thereby promoting broader economic development. When matched with high standards for environmental and social responsibility, the application of resource-efficient production and the reuse of waste energy and materials, industrial parks can help to achieve forms of industrialization that deliver on social objectives while also safeguarding the environment. To this end, UNIDO has developed a multiprolonged approach to scale up and mainstream eco-industrial parks. Industrial parks have the potential to be a dynamic and powerful tool for inclusive and sustainable industrial development, and function as hubs for creating, disseminating and applying industrial knowledge while stimulating innovation.

80. The implementation of multilateral environmental agreements in many cases requires industrial transformation and technological upgrading. UNIDO, as one of the implementing agencies of the Montreal Protocol on Substances that Deplete the Ozone Layer, continued its successful support to developing countries in their implementation efforts. For example, in 2012, all countries receiving UNIDO support achieved the milestone of a consumption freeze at the baseline level of

hydrochlorofluorocarbons, hence advancing on the protection of the ozone layer and on climate change mitigation. The programmes also enable industries to achieve increased productivity and an improved economic performance in terms of lower operating costs, less maintenance and higher product quality. In 2013, UNIDO became one of the implementing agencies of the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants, and proposals were submitted to eliminate hydrofluorocarbons in industry. UNIDO also continues its programmes under the Stockholm Convention on Persistent Organic Pollutants, with more than 50 projects that assist countries in updating their national implementation plans.

IV. Conclusions and recommendations

81. UNIDO statistics demonstrate that the global industrial landscape has changed dramatically, with industrial growth figures in the fourth quarter of 2013 indicating a boost in the manufacturing sector of emerging industrial countries, and growth also becoming more sustained among industrialized markets.

82. Industry in developing countries has undergone major structural changes in recent years and it can be expected that these transformations will significantly benefit the industrial performance of those countries in terms of productivity and competitiveness in the medium and longer term.

83. The link between inclusive and sustainable industrialization and long-term economic, social and environmental goals in all countries remains undeniable, as do the mutually reinforcing interlinkages between industry, innovation and the development of resilient infrastructure. A robust industrial base helps countries to recover from recessions faster than those lacking equivalent manufacturing sectors.

84. Looking to the future, major efforts will need to be made to ensure the increased inclusiveness of the benefits of industrialization and to achieve a more equitable distribution of those benefits among women and men as well as across all groups, countries and regions. Similar efforts will also need to be made to ensure the environmental sustainability of industry through such measures as enhancing access to clean technologies, promoting energy and resource efficiency and reducing industry's environmental footprint.

85. In considering the development agenda beyond 2015, Member States should consider adopting a goal on inclusive and sustainable industrialization, resilient infrastructure and innovation.

86. Furthermore, technology transfer and knowledge networking should be supported as key means of achieving inclusive and sustainable industrialization. The Green Industry Platform, the Accelerated Agribusiness and Agro-Industry Development Initiative, the Institute for Capacity Development, the *Networks for Prosperity* initiative and the global forums on inclusive and sustainable industrial development could serve as valuable models in this regard.

87. In addition to its established programmes described in the present report, UNIDO will enhance its programmatic work and system-wide partnerships in

the area of resilient industrial infrastructure, including the building of related institutional infrastructure.

88. **UNIDO should strengthen its work in advancing industry-related innovation networks and systems, including urban and semi-urban industrial clusters and parks, and support Governments in addressing key determinants for future industrial growth and prosperity.**

89. **To support this programme of work effectively, UNIDO should further strengthen all four enablers: technical cooperation; analytical and policy advisory services; normative activities; and convening for knowledge transfer and networking.**